# Five-Year Review Report

Second Five-Year Review Report
for
Hydro-Flex Corporation Site
Topeka, Kansas

September 2003

Prepared By:
Kansas Department of Health and Environment
Bureau of Environmental Remediation
Topeka, Kansas



Approved by:

Date:

Cecilia Tapia
Acting Superfund Division Director

3/25/03

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**Figures**



**Attachments**

## List of Acronyms

| | |
|---|---|
| ARAR | Applicable or Relevant and Appropriate Requirements |
| CERCLA | Comprehensive Environmental Response Compensation and Liability Act |
| CERCLIS | Comprehensive Environmental Response Compensation and Liability Act Information System |
| EPA | U.S. Environmental Protection Agency |
| KDHE | Kansas Department of Health and Environment |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| NPL | National Priority List |
| mg/l | Milligrams per liter |
| ml | Milliliter |
| RCRA | Resource Conservation and Recovery Act |
| RI/FS | Remedial Investigation/ Feasability Study |
| ROD | Record of Decision |
| SARA | Superfund Amendment Reauthorization Act |
| ug/l | Micrograms per liter |

## Executive Summary

The remedy for the Hydro-Flex Corporation Site as stated in the Record of Decision (ROD) dated March 9, 1992 is No Action. This alternative was selected in the absence of any significant contamination in sediment-free ground water, coupled with the lack of any significant continuing source of contamination to ground water. On June 30, 1992, EPA completed a Final Close Out Report documenting completion of work at the site.

The first Five-Year Review report for this site was completed by the EPA Superfund Division in September 1998 and consisted of sampling three nearby drinking water wells. This second Five-Year Review was initiated for completion within five years of the first Five-Year Review and included collection of ground water samples on-site using direct-push technology and sampling nearby drinking water wells.

The conclusion of this Five-Year Review assessment is that hazardous substances, pollutants or contaminants no longer remain on site at levels that do not allow for unlimited use and unrestricted exposure. This conclusion is based upon a comprehensive file review and collection of ground water samples at the site.

This document recommends that this be the final Five-Year Review and no additional Five-Year Reviews be conducted at the site.

## 5-Year Review Summary Form

| SITE IDENTIFICATION | | |
|---|---|---|
| Site name (from WasteLAN): Hydro Flex Corporation | | |
| EPA ID (from WasteLAN): KSD007135429 | | |
| Region : 7 | State: KS | City/County: Topeka/Shawnee |
| **SITE STATUS** | | |
| NPL status: ____Final __X__Deleted _____ Other (specify) | | |
| Remediation status (choose all that apply) ____Under Construction ____Operating __X__Complete | | |
| Multiple OUs? ___YES __X__NO | Construction Completion Date ____ | |
| Has site been put into reuse ____YES __X__NO | | |
| **REVIEW STATUS** | | |
| Lead agency: ___ EPA ___State __X__ Tribe ___Other Federal Agency _____ | | |
| Author name: __Travis Kogl__ | | |
| Author title: Environmental Geologist | Author affiliation: Kansas Dept. of Health and Environment | |
| Review Period: May 2003 to June 2003 | | |
| Date(s) of site inspection: __5/21/03__ | | |
| Type of review:<br>__X__Post SARA ____Pre-SARA ___NPL-Removal Only<br>___Non-NPL Remedial Action Site ___NPL State/Tribe-lead<br>___Regional Discretion | | |
| Review number: ___1 (first) __X__ 2 (second) ____3 (third) ___Other (specify) | | |
| Triggering Action:<br>___Actual RA On-site Construction at OU #__ ___Actual RA Start at OU# ___<br>___Construction Completion __X__Previous Five-Year Review Report<br>___Other (specify) | | |
| Triggering action date(from WasteLAN) 9/17/1998 | | |
| Due date (five years after triggering action date): 9/17/2003 | | |

## Five-Year Review Summary Form, cont'd.

**Issues:**

No issues that prevent the selected no action alternative from being protective of human health and the environment were identified at the site.

**Recommendations and Follow-up Actions:**

No hazardous substances, pollutants or contaminants were detected in ground water samples from the site.

Given that no significant waste remains at the site, KDHE recommends no additional Five-Year Review.

**Protectiveness Statement(s):**

The remedy is protective of human health and the environment. No significant hazardous waste remains at the site. No additional threat from CERCLA hazardous wastes is known to be present.

**Long-term Protectiveness:**

Site conditions have not changed. The site remedy remains protective and there are no foreseeable conditions that will result in the remedial action failing. Remedial action objectives have been achieved and the long-term protectiveness of the site is assured.

**Other Comments:**

No other comments required.

**Hydro-Flex Corporation Site**
**Topeka, Kansas**
**Second/Final Five-Year Review Report**

## I. Introduction

The Kansas Department of Health and Environment, in cooperation with EPA Region 7, has conducted this Five-Year Review of the remedial actions implemented at the Hydro-Flex Corporation Site in Topeka, Shawnee County, Kansas. The site has Comprehensive Environmental Response Compensation and Liability Act Information System (CERCLIS) identification number KSD007135429. The Five-Year Review was conducted between May 2003 and June 2003. This report documents the methods, findings, and conclusions of the Five-Year Review. The purpose of the Five-Year Review is to determine whether the remedy at a site is protective of human health and the environment. The triggering action for this statutory review is the date of the previous Five-Year Review of September 17, 1998.

This Five-Year Review report is prepared pursuant to Comprehensive Environmental Response Compensation and Liability Act (CERCLA) §121 and the National Contingency Plan (NCP). CERCLA §121 states:

> *If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented. In addition, if upon such review it is the judgement of the President that action is appropriate at such site in accordance with section [104] or [106], the President shall take or require such action. The President shall report to the Congress a list of facilities for which such review is required, the results of all such reviews.*

The U.S. Environmental Protection Agency (EPA) interpreted this requirement further in the NCP; 40 CFR §300.430(f)(4)(ii) states:

> *If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.*

## II. Site Chronology

A chronology of site events is presented below in tabular format.

| Event | Date |
|---|---|
| Site Discovery | 10/01/1980 |
| Site Inspection | 01/01/1983 |
| Preliminary Assessment 1 | 10/01/1983 |
| Preliminary Assessment 2 | 03/01/1987 |
| Site Inspection | 03/11/1987 |
| HRS Package | 09/11/1987 |
| Proposed to NPL | 06/24/1988 |
| NPL RP search | 12/32/1988 |
| Final Listing on NPL | 03/31/1989 |
| State Order | 09/26/1989 |
| Removal Assessment | 09/15/1990 |
| PRP RI/FS | 01/07/1992 |
| ROD | 03/09/1992 |
| Close-out Report | 06/30/1992 |
| Removal Assessment | 12/30/1992 |
| Site Deleted from NPL | 11/09/1993 |
| First Five-Year Review Completed | 09/17/1998 |

## III. Background

### Physical Characteristics

The Hydro-Flex Corporation facility is located in northwest Topeka, Kansas at 2101 NW Brickyard Road. The property is approximately 2.95 acres and is located in Section 22, Township 11, Range 15 East of the Public Land Survey System.

### Land and Resource Use

The surrounding area is a mixture of industrial and residential properties. The area was zoned for industrial use after a major flood in 1951. The area is currently listed as a Plan Unit Development area, however, the Shawnee County-Topeka Metropolitan Planning Agency has no plan for the area on record.

Ground water is the only natural resource used in the vicinity. It occurs at the site at a depth of 44 feet below surface in alluvial deposits of the Kansas River. The deposits are composed of course silt and fine sand grading down to gravel. Two nearby households obtain drinking water from wells completed in the alluvium.

### History of Contamination

During the 1970s and 1980s, Hydro-Flex manufactured flexible copper and stainless steel couplings used in plumbing and heat exchangers. The process required that the couplings be cleaned during production. This was accomplished with an acidic hexavalent chromium cleaning solution. Sodium bicarbonate was subsequently added to neutralize the solution. No municipal sewer connection was available at the time and Hydro-Flex was permitted to discharge process waste water into a septic tank and three subsurface 4-foot diameter concrete silos. Difficulties were encountered in operation of the waste water disposal system, and waste water occasionally overflowed from the silos onto the ground. Hydro-Flex repeatedly tried to resolve these problems with numerous attempts to obtain a connection to the municipal sewer system, introduction of muriatic acid into the system in 1973, pumping sludge from the silos and disposing of it in a landfill, and an attempt to dispose of process waste water into an on-site industrial water well.

Hydro-Flex Corporation was connected to the Topeka municipal sewer system in July 1981 and the practice of disposing of waste water to the subsurface silos was discontinued.

### Initial Response

The site is a state-lead site, and KDHE has been active in regulation of hazardous substances at the facility beginning with a RCRA compliance inspection in 1981; waste water and sludge sampling from the silos in 1981; completion of a Preliminary Assessment form in 1983; a Site Investigation in 1985 and 1986; and installing and sampling of monitoring wells in 1987. Subsequently, the site was nominated for the National Priorities List (NPL) by EPA. On March 30, 1989, EPA added the site to the NPL.

A consent agreement between KDHE and Hydro-Flex was signed in September 1989 in which Hydro-Flex agreed to conduct a Remedial Investigation/Feasability Study (RI/FS). The work plan for the RI/FS was approved by KDHE in January 1990 and work commenced at the site in September 1990. Additional RI site work was initiated during the early spring of 1991. The Final RI report was approved in September of 1991. Based upon the results of a Baseline Risk Assessment, EPA and KDHE determined that the FS was not required at the site.

### Basis for Taking Action

The basis for taking action at this site under CERCLA authorities appears to have been a concern for human exposure to chromium through ingestion of contaminated ground water through nearby drinking water wells.

## IV. Remedial Actions

### Remedy Selection

The Record of Decision (ROD) for selection of the remedy was signed on March 9, 1992. The no action alternative was selected based upon the absence of any significant contamination in sediment-free ground water and the lack of any significant continuing source of contamination to the ground water from the site.

### Remedy Implementation

There are no significant quantities of hazardous substances, pollutants or contaminants on-site that do not allow for unlimited use and unrestricted exposure.

### System Operation/Operation and Maintenance

There has been no need for an ongoing Operations and Maintenance function for the no action alternative.

## V. Progress Since Last Five-Year Review

No information was found to indicate that there has been any change in the site since the last Five-Year Review. No additional activity has been performed at the site.

## VI. Five-Year Review Process

### Administrative Component

Catherine Barrett of EPA initiated the Five-year Review and arranged for public notice that a Five-Year Review was to be conducted. The KDHE Five-Year Review team was led by Travis Kogl of KDHE and included technical support from Peter Haxton and John Cregan of KDHE. Catherine Barrett provided oversight.

### Community Involvement

Public interest in this site appears to be minimal. Community involvement included a public information notice that was published in the Topeka Capital Journal newspaper on October 30, 2002. Upon completion of the Five-Year Review, a newspaper notice was placed indicating the availability of the Five-Year Review report for the public.

### Document Review

This Five-Year Review consisted of a review of relevant documents including the RI/FS and the Agency for Toxic Substance and Disease Registry's Health Assessment for Hydro-Flex Corporation National Priority List Site (7/89). Applicable ground water cleanup standards, as listed in the 1992 Record of Decision were reviewed

## Data Review

Previous file data was reviewed to determine if additional data was required. Based upon the data collected for the December 12, 1990 investigation, the only significant contamination found at the site was in a 1-foot thick layer of contaminated material located at the bottom of one of the subsurface silos and a significantly smaller layer of material in the bottom of another silo. The total amount was estimated to be less than 1 cubic yard of contaminated material. The chromium in the material was trivalent chromium, which is relatively immobile and less toxic than the hexavalent form. A sample of the material did not fail an EP TOX analysis and would therefore not be considered RCRA hazardous waste.

Review of documents pertaining to ground water contamination at the site indicates that the primary concern centered on the former industrial well in which Hydro-Flex reportedly attempted to dispose of waste process water. The well is known as HF-4. The well had contained a sludge material during the initial investigations, but purging of the well of at least 30 casing volumes of water during subsequent sampling events effectively removed the sludge material. This is demonstrated by the fact that chromium was not detected above method detection limits in filtered samples from the well in the final sampling event of the Remedial Investigation. Chromium concentrations in filtered samples from five monitoring wells on-site were less than regulatory guidelines.

## Site Inspection

A site inspection was conducted on May 21, 2003 to determine current site conditions, collect ground water samples using direct-push technology, and sample nearby drinking water wells.

Three ground water samples were collected using a model 4200 van-mounted Geoprobe direct-push unit. Sample location G1 was located on the potentiometrically up-gradient side of the property to represent background concentrations; sample location G2 was located near the former waste disposal area; and sample location G3 was located in approximately the same location as HF-4.

Samples were collected by advancing sampling tools to a depth of 44 feet below surface level into the upper portion of the underlying unconsolidated aquifer. Disposable polyethylene tubing fitted with a down-hole stainless steel check-valve was inserted into the probe rods and lowered to ground water through the tool string. The check-valve was used to remove a minimum of three volumes of water from the tool string to insure a representative sample from the surrounding aquifer. Samples were collected into 40 milliliter (ml) acid-preserved glass vials and

one unpreserved 250 ml polyethylene disposable cubitainer. The samples in the cubitainers were filtered through 0.45 micron filters and transferred into acid-preserved 125 ml nalgene bottles. All samples were placed on ice for transportation to KDHE's Division of Health and Environmental Laboratories.

KDHE's Division of Health and Environmental Laboratories analyzed the water samples for metals by EPA Method 200.7 and volatile organic compounds by EPA Method 8260. No chromium was detected in the samples with a detection limit of 0.010 milligrams per liter (mg/l). No volatile organic compounds were detected in the samples with a detection limit of 0.5 micrograms per liter (ug/l), with the exception of 0.52 ug/l tetrachloromethane, which was detected in the Weinck well sample. This contamination is part of a previously identified contaminant plume associated with a nearby grain elevator.

**Interviews**

During the site inspections, the owners of the nearby drinking water wells were interviewed. Neither expressed concern about the Hydro-Flex Corporation Site. The owner of the Hydro-Flex Corporation, Mr. Jeff Campbell, was also interviewed through the course of several conversations.

## VII. Technical Assessment

**Question A: Is the remedy functioning as intended by the decision documents?**

The review of documents, ARARs, risk assumptions, and the results of the site inspection indicates that the remedy is functioning as intended by the ROD.

**Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?**

There have been no changes in the physical conditions at the site that would affect the protectiveness of the remedy. Nor have there been any changes in the relative standards, exposure pathways, toxicity or other contaminant characteristics that would change the decisions previously made.

**Question C: Has any other information come to light that could call into question the protectiveness of the remedy?**

There has not been any information that has come to light that would call into question the protectiveness of the remedy.

### Technical Assessment Summary

Based on the data reviewed, the site inspection, and interviews, the remedy is functioning as intended in the ROD. There have been no changes at the site that would affect the protectiveness of the remedy. There is no other information that calls into question the protectiveness of the remedy.

## VIII. Issues

There are no issues concerning this remedy.

## IX. Recommendations and Follow-Up Actions

KDHE recommends discontinuing the Five-Year Review process at the site. This decision is be based on the continued validity of the following findings:

- No significant amounts of CERCLA hazardous substances remain at this site;
- The site has been de-listed from the NPL;
- The previous Five-Year Review has not identified any potential for adverse effect on the public health or the environment, due to any contaminant subject to CERCLA authority;
- The current Five-Year Review has not identified any potential for adverse effect on the public health or the environment, due to any contaminant subject to CERCLA authority.

## X. Protectiveness Statement

The remedy is protective of human health and the environment. No significant CERCLA regulated contaminants are known to remain on site.

## XI. Next Review

KDHE recommends discontinuing the Five-Year Review process at the site. The conclusion of this Five-Year Review assessment is that hazardous substances, pollutants or contaminants no longer remain on site at levels that do not allow for unlimited use and unrestricted exposure.

# FIGURES

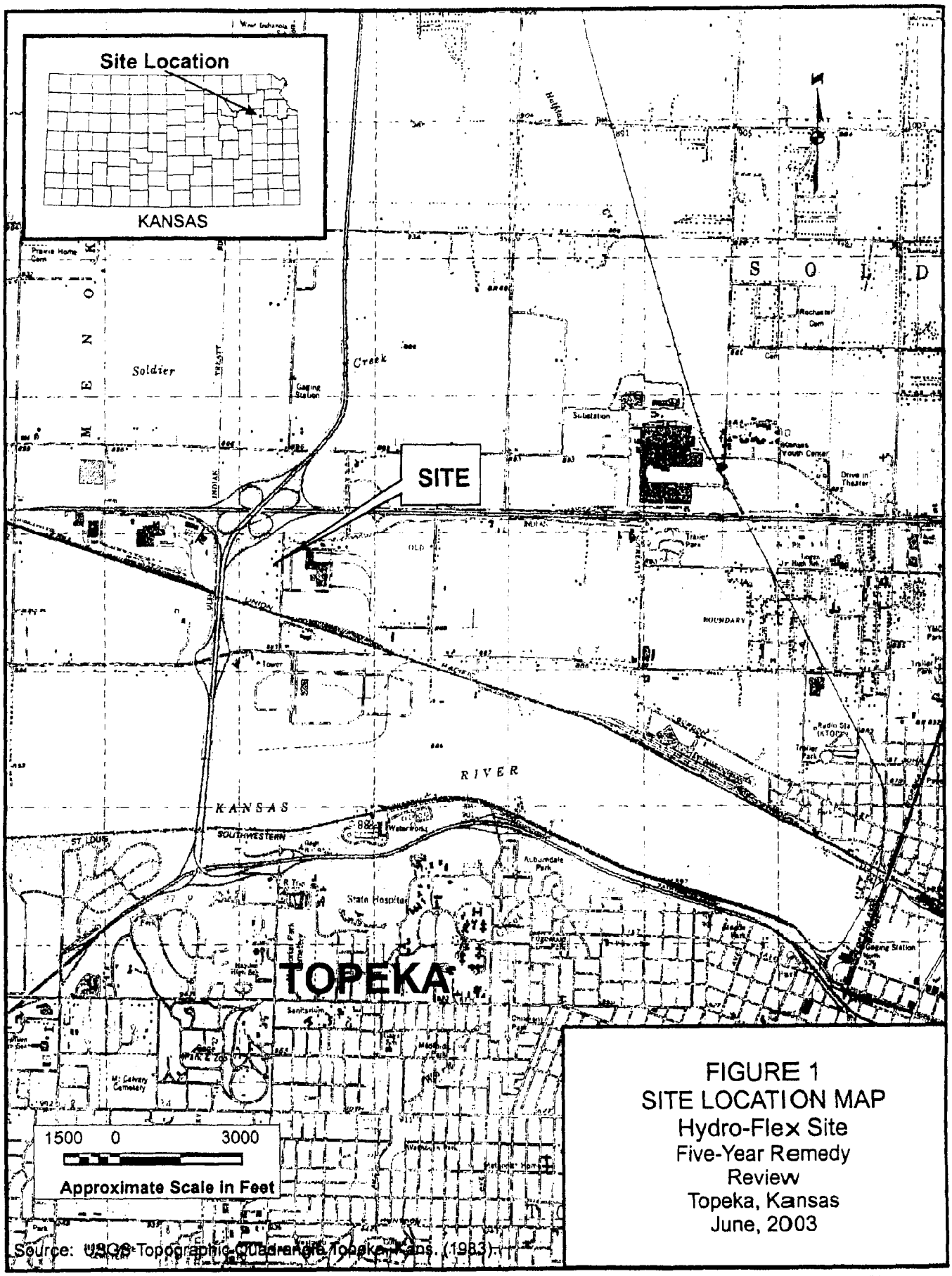
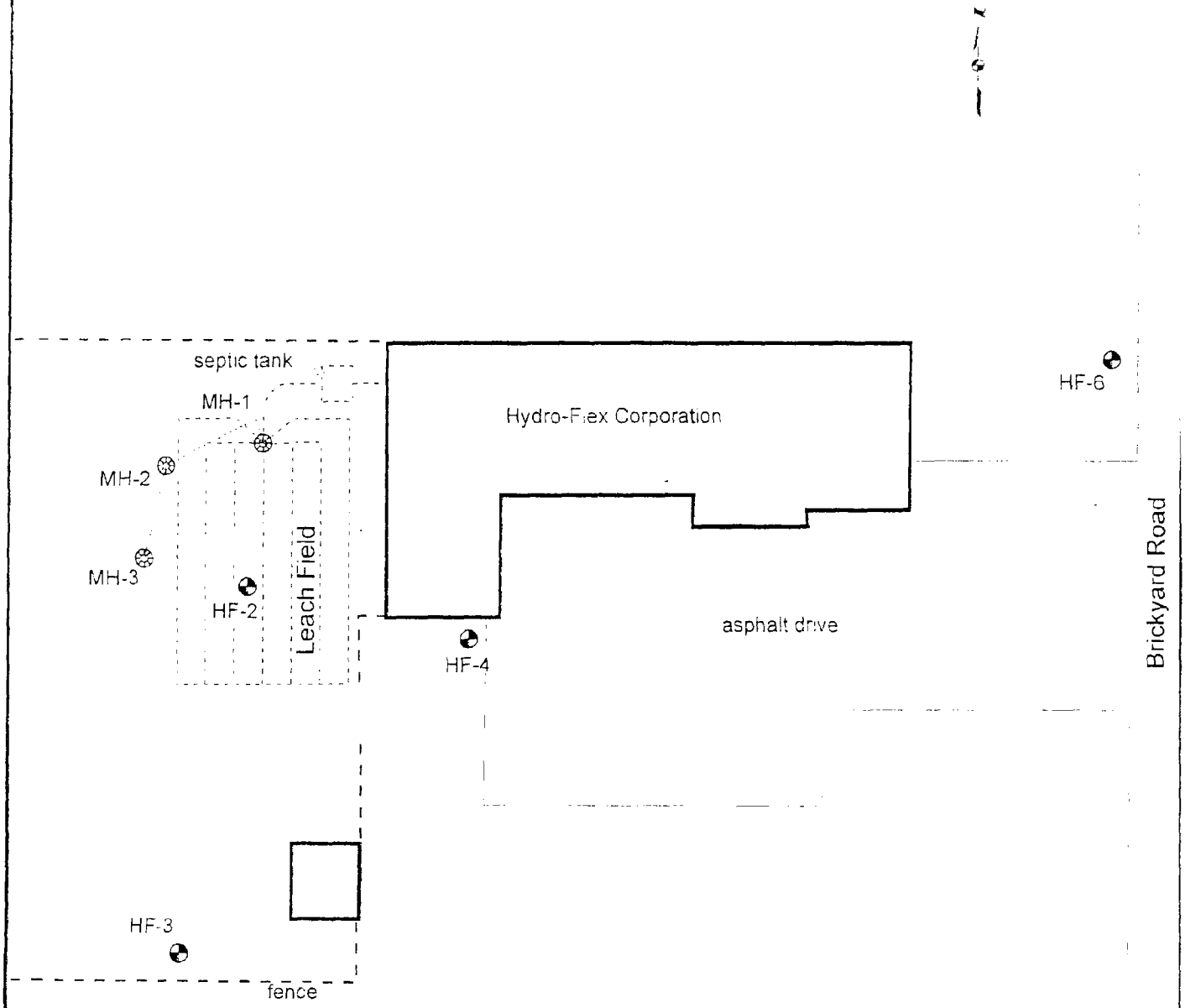



FIGURE 1
SITE LOCATION MAP
Hydro-Flex Site
Five-Year Remedy Review
Topeka, Kansas
June, 2003

Source: USGS Topographic Quadrangle Topeka, Kans. (1983)




EXPLANATION

MH-3 in-ground disposal silo (abandoned)

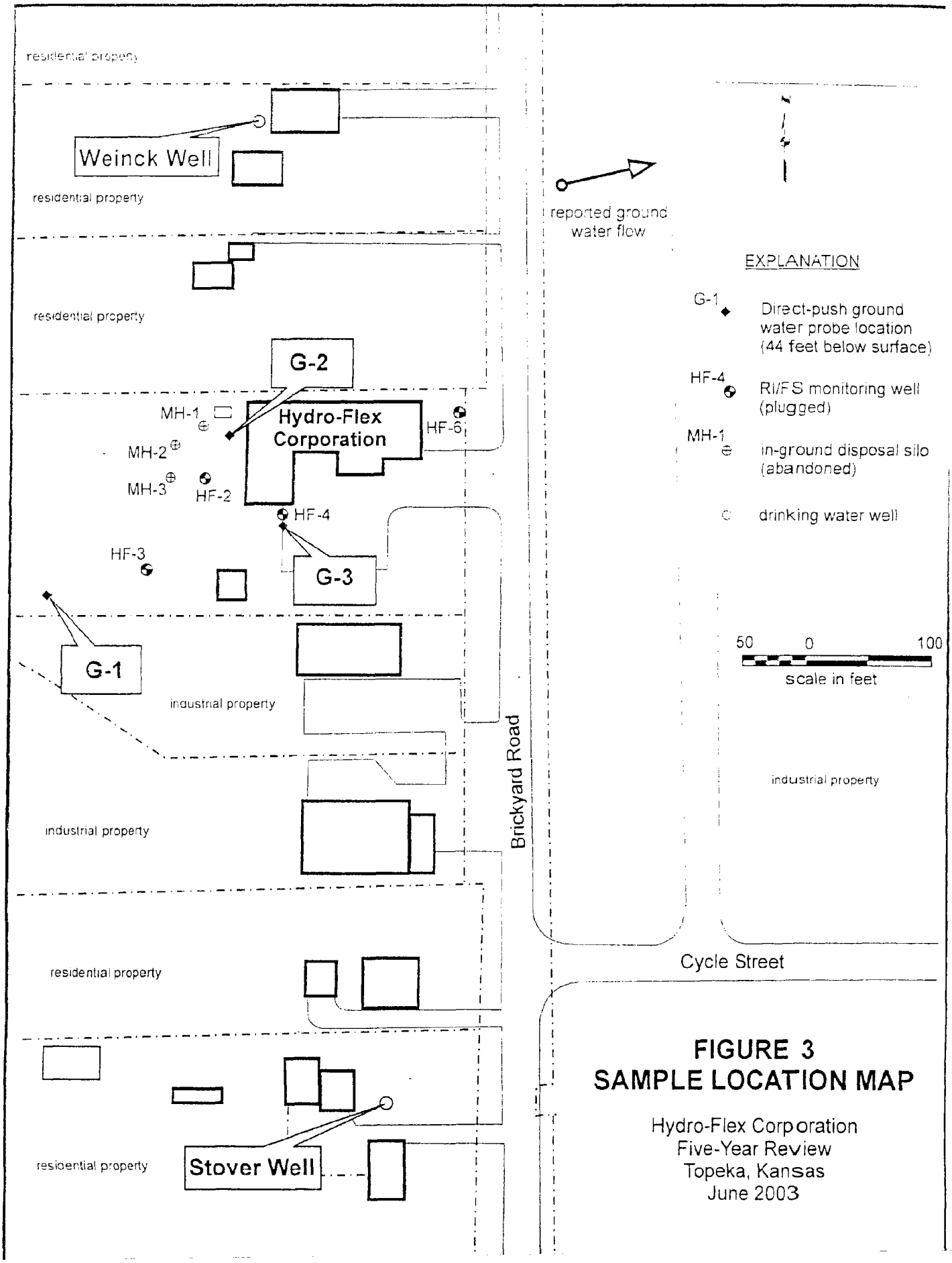
HF-3 RI/FS monitoring well (plugged)

25 0 50

scale in feet

**FIGURE 2**
**SITE MAP**

Hydro-Flex Corporation
Five-Year Review
Topeka, Kansas
June 2003




# FIGURE 3
# SAMPLE LOCATION MAP

Hydro-Flex Corporation
Five-Year Review
Topeka, Kansas
June 2003

Attachment 1

Documents Reviewed

**List of Documents Reviewed**

Hydro-Flex Corporation Site Record of Decision, March 3, 1992

Hydro-Flex Corporation Site Remedial Investigation/Feasability Study Work Plan, January 1990

Hydro-Flex Corporation Site Phase IA Investigation Report, December12, 1990

Hydro-Flex Corporation Site Remedial Investigation Report, September 16, 1991

Agency for Toxic Substance and Disease Registry's Health Assessment for Hydro-Flex Corporation National Priority List Site, July 1989

Kansas Department of Health and Environment's Risk-based Standards for Kansas - 3rd Version, March 1, 2003

United States Environmental Protection Agency's 2002 Edition of the Drinking Water Standards and Health Advisories

Attachment 2

Laboratory Analytical Reports - May 21, 2003

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

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# REPORT OF ANALYSIS

## INORGANIC CHEMISTRY

BUREAU OF ENVIRONMENTAL REMEDIATION

Report To: Bureau of Env. Remediation
Curtis SOB, Suite 410
ATTN: TRAVIS KOGL
Topeka KS 66612

Analysis Code: PT  Lab Number: 416535

4EM80
Site ID:
Account Code: EP

Collection Location: HYDRO-FLEX GP-1
Collector: T KOGL KDHE/BER  Matrix: Water  Collect Depth: 44
Date/Time Collected: 05/22/03 10:30  Date/Time Received: 05/22/03 15:31

Sample Comments:

| Parameter | Analytical Result | Units | Analysis Date | Analytical Method |
|---|---|---|---|---|
| Aluminum | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Antimony | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Arsenic | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Barium | 0.52 | mg/L | 05/29/03 | EPA 200.7 |
| Beryllium | < 0.0010 | mg/L | 05/29/03 | EPA 200.7 |
| Boron | 0.082 | mg/L | 05/29/03 | EPA 200.7 |
| Cadmium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Calcium | 150 | mg/L | 05/29/03 | EPA 200.7 |
| Chromium | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Cobalt | 0.026 | mg/L | 05/29/03 | EPA 200.7 |
| Copper | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Iron | 1.1 | mg/L | 05/29/03 | EPA 200.7 |
| Lead | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Magnesium | 15 | mg/L | 05/29/03 | EPA 200.7 |
| Manganese | 1.6 | mg/L | 05/29/03 | EPA 200.7 |
| Molybdenum | < 0.020 | mg/L | 05/29/03 | EPA 200.7 |
| Nickel | 0.0058 | mg/L | 05/29/03 | EPA 200.7 |
| Potassium | 10 | mg/L | 05/29/03 | EPA 200.7 |
| Selenium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Silica | 30 | mg/L | 05/29/03 | EPA 200.7 |
| Silver | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Sodium | 11 | mg/L | 05/29/03 | EPA 200.7 |
| Thallium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Vanadium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Zinc | 0.020 | mg/L | 05/29/03 | EPA 200.7 |

Reporting Analyst: REH
Date Reported: 05/30/03
Copies To: File

< - Not Detected at Indicated Level
* - Holding Time Exceeded

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Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

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ENVIRONMENTAL REMEDIATION

# REPORT OF ANALYSIS

## INORGANIC CHEMISTRY

Report To: Bureau of Env. Remediation
Curtis SOB, Suite 410
ATTN: TRAVIS KOGL
Topeka KS 66612

Analysis Code: PT  Lab Number: 416534

4EM80
Site ID:
Account Code: EP

Collection Location: HYDRO-FLEX GP-2
Collector: T KOGL KDHE/BER
Date/Time Collected: 05/22/03 11:20

Matrix: Water  Collect Depth: 44
Date/Time Received: 05/22/03 15:30

Sample Comments:

| Parameter | Analytical Result | Units | Analysis Date | Analytical Method |
|---|---|---|---|---|
| Aluminum | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Antimony | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Arsenic | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Barium | 0.39 | mg/L | 05/29/03 | EPA 200.7 |
| Beryllium | < 0.0010 | mg/L | 05/29/03 | EPA 200.7 |
| Boron | 0.12 | mg/L | 05/29/03 | EPA 200.7 |
| Cadmium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Calcium | 140 | mg/L | 05/29/03 | EPA 200.7 |
| Chromium | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Cobalt | 0.016 | mg/L | 05/29/03 | EPA 200.7 |
| Copper | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Iron | 0.021 | mg/L | 05/29/03 | EPA 200.7 |
| Lead | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Magnesium | 12 | mg/L | 05/29/03 | EPA 200.7 |
| Manganese | 0.94 | mg/L | 05/29/03 | EPA 200.7 |
| Molybdenum | < 0.020 | mg/L | 05/29/03 | EPA 200.7 |
| Nickel | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Potassium | 10 | mg/L | 05/29/03 | EPA 200.7 |
| Selenium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Silica | 40 | mg/L | 05/29/03 | EPA 200.7 |
| Silver | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Sodium | 13 | mg/L | 05/29/03 | EPA 200.7 |
| Thallium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Vanadium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Zinc | 0.0083 | mg/L | 05/29/03 | EPA 200.7 |

Reporting Analyst: REH
Date Reported: 05/30/03
Copies To: File

< - Not Detected at Indicated Level
* - Holding Time Exceeded

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

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ENVIRONMENTAL REMEDIATION

# REPORT OF ANALYSIS

## INORGANIC CHEMISTRY

Report To: Bureau of Env. Remediation
Curtis SOB, Suite 410
ATTN: TRAVIS KOGL
Topeka KS 66612

Analysis Code: PT  Lab Number: 416533

4EM80
Site ID:
Account Code: EP

Collection Location: HYDRO-FLEX GP-3
Collector: T KOGL KDHE/BER
Date/Time Collected: 05/22/03 12:00

Matrix: Water  Collect Depth: 44
Date/Time Received: 05/22/03 15:30

Sample Comments:

| Parameter | Analytical Result | Units | Analysis Date | Analytical Method |
|---|---|---|---|---|
| Aluminum | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Antimony | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Arsenic | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Barium | 0.26 | mg/L | 05/29/03 | EPA 200.7 |
| Beryllium | < 0.0010 | mg/L | 05/29/03 | EPA 200.7 |
| Boron | 0.17 | mg/L | 05/29/03 | EPA 200.7 |
| Cadmium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Calcium | 160 | mg/L | 05/29/03 | EPA 200.7 |
| Chromium | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Cobalt | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Copper | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Iron | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Lead | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Magnesium | 14 | mg/L | 05/29/03 | EPA 200.7 |
| Manganese | 0.15 | mg/L | 05/29/03 | EPA 200.7 |
| Molybdenum | < 0.020 | mg/L | 05/29/03 | EPA 200.7 |
| Nickel | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Potassium | 9.4 | mg/L | 05/29/03 | EPA 200.7 |
| Selenium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Silica | 40 | mg/L | 05/29/03 | EPA 200.7 |
| Silver | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Sodium | 15 | mg/L | 05/29/03 | EPA 200.7 |
| Thallium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Vanadium | 0.0060 | mg/L | 05/29/03 | EPA 200.7 |
| Zinc | 0.0073 | mg/L | 05/29/03 | EPA 200.7 |

Reporting Analyst: REH
Date Reported: 05/30/03
Copies To: File

< - Not Detected at Indicated Level
* - Holding Time Exceeded

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

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# REPORT OF ANALYSIS

## INORGANIC CHEMISTRY

Report To: Bureau of Env. Remediation
Curtis SOB, Suite 410
ATTN: TRAVIS KOGL
Topeka KS 66612

Analysis Code: PT  Lab Number: 416536
4EM80
Site ID:
Account Code: EP

Collection Location: STOVER WELL
Collector: T KOGL KDHE/BER  Matrix: Water  Collect Depth: 44
Date/Time Collected: 05/22/03 13:35  Date/Time Received: 05/22/03 15:31

Sample Comments:

| Parameter | Analytical Result | Units | Analysis Date | Analytical Method |
|---|---|---|---|---|
| Aluminum | 0.12 | mg/L | 05/29/03 | EPA 200.7 |
| Antimony | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Arsenic | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Barium | 0.41 | mg/L | 05/29/03 | EPA 200.7 |
| Beryllium | < 0.0010 | mg/L | 05/29/03 | EPA 200.7 |
| Boron | 0.27 | mg/L | 05/29/03 | EPA 200.7 |
| Cadmium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Calcium | 160 | mg/L | 05/29/03 | EPA 200.7 |
| Chromium | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Cobalt | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Copper | 0.12 | mg/L | 05/29/03 | EPA 200.7 |
| Iron | 1.3 | mg/L | 05/29/03 | EPA 200.7 |
| Lead | 0.090 | mg/L | 05/29/03 | EPA 200.7 |
| Magnesium | 15 | mg/L | 05/29/03 | EPA 200.7 |
| Manganese | 0.051 | mg/L | 05/29/03 | EPA 200.7 |
| Molybdenum | < 0.020 | mg/L | 05/29/03 | EPA 200.7 |
| Nickel | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Potassium | 9.6 | mg/L | 05/29/03 | EPA 200.7 |
| Selenium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Silica | 39 | mg/L | 05/29/03 | EPA 200.7 |
| Silver | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Sodium | 20 | mg/L | 05/29/03 | EPA 200.7 |
| Thallium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Vanadium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Zinc | 0.21 | mg/L | 05/29/03 | EPA 200.7 |

Reporting Analyst: REH
Date Reported: 05/30/03
Copies To: File

< - Not Detected at Indicated Level
* - Holding Time Exceeded

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

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JUN 0 2 2003
BUREAU OF ENVIRONMENTAL REMEDIATION

# REPORT OF ANALYSIS

## INORGANIC CHEMISTRY

Report To: Bureau of Env. Remediation
Curtis SOB, Suite 410
ATTN: TRAVIS KOGL
Topeka KS 66612

Analysis Code: PT  Lab Number: 416537

4EM80
Site ID:
Account Code: EP

Collection Location: WEINCK WELL
Collector: T KOGL KDHE/BER  Matrix: Water  Collect Depth: 37
Date/Time Collected: 05/22/03 13:25  Date/Time Received: 05/22/03 15:31

Sample Comments:

| Parameter | Analytical Result | Units | Analysis Date | Analytical Method |
|---|---|---|---|---|
| Aluminum | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Antimony | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Arsenic | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Barium | 0.54 | mg/L | 05/29/03 | EPA 200.7 |
| Beryllium | < 0.0010 | mg/L | 05/29/03 | EPA 200.7 |
| Boron | 0.077 | mg/L | 05/29/03 | EPA 200.7 |
| Cadmium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Calcium | 150 | mg/L | 05/29/03 | EPA 200.7 |
| Chromium | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Cobalt | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Copper | 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Iron | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Lead | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Magnesium | 13 | mg/L | 05/29/03 | EPA 200.7 |
| Manganese | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Molybdenum | < 0.020 | mg/L | 05/29/03 | EPA 200.7 |
| Nickel | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Potassium | 8.5 | mg/L | 05/29/03 | EPA 200.7 |
| Selenium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Silica | 51 | mg/L | 05/29/03 | EPA 200.7 |
| Silver | < 0.010 | mg/L | 05/29/03 | EPA 200.7 |
| Sodium | 12 | mg/L | 05/29/03 | EPA 200.7 |
| Thallium | < 0.050 | mg/L | 05/29/03 | EPA 200.7 |
| Vanadium | < 0.0050 | mg/L | 05/29/03 | EPA 200.7 |
| Zinc | 0.0082 | mg/L | 05/29/03 | EPA 200.7 |

Reporting Analyst: REH
Date Reported: 05/30/03
Copies To: File

< - Not Detected at Indicated Level
* - Holding Time Exceeded

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

# REPORT OF ANALYSIS



## ORGANIC CHEMISTRY

Report To: BUREAU OF ENV. REMEDIATION  Analysis Code: VG  Lab Number: 416540
Address: CURTIS SOB, SUITE 410, ATTN: TRAVIS KOGL  Date Rec'd: 05/22/03
TOPEKA, KS 66612  Report Date: 05/30/03

Site ID No.:

Acct No: 4EM80  Sample Type: WATER  Program Code: EP
Site: HYDRO-FLEX GP-1  No. Composited:
Collected By: T KOGL KDHE/BER  Depth: 44  Date: 05/22/03  Time: 10:30

| VOLATILE ORGANIC COMPOUNDS | CONCENTRATION ( ug/L ) | Analysis Date | EPA Method |
|---|---|---|---|
| Vinyl Chloride | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| Dichloromethane | < 0.50 | 05/29/03 | 8260 |
| trans 1,2-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| cis 1,2-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| 1,1,1-Trichloroethane | < 0.50 | 05/29/03 | 8260 |
| Tetrachloromethane | < 0.50 | 05/29/03 | 8260 |
| Benzene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichloroethane | < 0.50 | 05/29/03 | 8260 |
| Trichloroethylene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Toluene | < 0.50 | 05/29/03 | 8260 |
| 1,1,2-Trichloroethane | < 0.50 | 05/29/03 | 8260 |
| Tetrachloroethylene | < 0.50 | 05/29/03 | 8260 |
| Chlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Ethylbenzene | < 0.50 | 05/29/03 | 8260 |
| Xylene | < 0.50 | 05/29/03 | 8260 |
| Styrene | < 0.50 | 05/29/03 | 8260 |
| 1,4-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,4-Trichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Chloromethane | < 0.50 | 05/29/03 | 8260 |
| Bromomethane | < 0.50 | 05/29/03 | 8260 |
| Chloroethane | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloroethane | < 0.50 | 05/29/03 | 8260 |
| 2,2-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Trichloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloropropene | < 0.50 | 05/29/03 | 8260 |
| Dibromomethane | < 0.50 | 05/29/03 | 8260 |
| Bromodichloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,3-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Dibromochloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1,1,2-Tetrachloroethane | < 0.50 | 05/29/03 | 8260 |
| Bromoform (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1,2,2-Tetrachloroethane | < 0.50 | 05/29/03 | 8260 |
| Bromobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,3-Trichloropropane | < 0.50 | 05/29/03 | 8260 |
| ortho-Chlorotoluene | < 0.50 | 05/29/03 | 8260 |
| para-Chlorotoluene | < 0.50 | 05/29/03 | 8260 |
| 1,3-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Ethylene Dibromide (EDB) | < 0.010 | 05/29/03 | 8260 |
| 1,2-Dibromo-3-chloropropane | < 0.020 | 05/29/03 | 8260 |
| Fluorotrichloromethane | < 0.50 | 05/29/03 | 8260 |
| Dichlorodifluoromethane | < 0.50 | 05/29/03 | 8260 |
| Isopropylbenzene | < 0.50 | 05/29/03 | 8260 |
| n-Propylbenzene | < 0.50 | 05/29/03 | 8260 |
| 1,3,5-Trimethylbenzene | < 0.50 | 05/29/03 | 8260 |
| tert-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,4-Trimethylbenzene | < 0.50 | 05/29/03 | 8260 |
| sec-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| para-Isopropyltoluene | < 0.50 | 05/29/03 | 8260 |
| n-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| Naphthalene | < 0.50 | 05/29/03 | 8260 |
| Methyl tert-butyl ether | < 0.50 | 05/29/03 | 8260 |

Chemist: Richard L. Pierce

< - Not Detected at Indicated Level

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

# REPORT OF ANALYSIS



## ORGANIC CHEMISTRY

Report To: BUREAU OF ENV. REMEDIATION  Analysis Code: CVG  Lab Number: 416541
Address: CURTIS SOB, SUITE 410, ATTN: TRAVIS KOGL  Date Rec'd: 05/22/03
TOPEKA, KS 66612  Report Date: 05/30/03

Site ID No.:

Acct No: 4EM80  Sample Type: WATER  Program Code: EP
Site: HYDRO-FLEX GP-2  No. Composited:
Collected By: T KOGL  KDHE/BER  Depth: 44  Date: 05/22/03  Time: 11:20

| VOLATILE ORGANIC COMPOUNDS | CONCENTRATION ( ug/L ) | Analysis Date | EPA Method |
|---|---|---|---|
| Vinyl Chloride | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| Dichloromethane | < 0.50 | 05/29/03 | 8260 |
| trans 1,2-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| cis 1,2-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| 1,1,1-Trichloroethane | < 0.50 | 05/29/03 | 8260 |
| Tetrachloromethane | < 0.50 | 05/29/03 | 8260 |
| Benzene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichloroethane | < 0.50 | 05/29/03 | 8260 |
| Trichloroethylene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Toluene | < 0.50 | 05/29/03 | 8260 |
| 1,1,2-Trichloroethane | < 0.50 | 05/29/03 | 8260 |
| Tetrachloroethylene | < 0.50 | 05/29/03 | 8260 |
| Chlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Ethylbenzene | < 0.50 | 05/29/03 | 8260 |
| Xylene | < 0.50 | 05/29/03 | 8260 |
| Styrene | < 0.50 | 05/29/03 | 8260 |
| 1,4-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,4-Trichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Chloromethane | < 0.50 | 05/29/03 | 8260 |
| Bromomethane | < 0.50 | 05/29/03 | 8260 |
| Chloroethane | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloroethane | < 0.50 | 05/29/03 | 8260 |
| 2,2-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Trichloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloropropene | < 0.50 | 05/29/03 | 8260 |
| Dibromomethane | < 0.50 | 05/29/03 | 8260 |
| Bromodichloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,3-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Dibromochloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1,1,2-Tetrachloroethane | < 0.50 | 05/29/03 | 8260 |
| Bromoform (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1,2,2-Tetrachloroethane | < 0.50 | 05/29/03 | 8260 |
| Bromobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,3-Trichloropropane | < 0.50 | 05/29/03 | 8260 |
| ortho-Chlorotoluene | < 0.50 | 05/29/03 | 8260 |
| para-Chlorotoluene | < 0.50 | 05/29/03 | 8260 |
| 1,3-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Ethylene Dibromide (EDB) | < 0.010 | 05/29/03 | 8260 |
| 1,2-Dibromo-3-chloropropane | < 0.020 | 05/29/03 | 8260 |
| Fluorotrichloromethane | < 0.50 | 05/29/03 | 8260 |
| Dichlorodifluoromethane | < 0.50 | 05/29/03 | 8260 |
| Isopropylbenzene | < 0.50 | 05/29/03 | 8260 |
| n-Propylbenzene | < 0.50 | 05/29/03 | 8260 |
| 1,3,5-Trimethylbenzene | < 0.50 | 05/29/03 | 8260 |
| tert-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,4-Trimethylbenzene | < 0.50 | 05/29/03 | 8260 |
| sec-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| para-Isopropyltoluene | < 0.50 | 05/29/03 | 8260 |
| n-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| Naphthalene | < 0.50 | 05/29/03 | 8260 |
| Methyl tert-butyl ether | < 0.50 | 05/29/03 | 8260 |

Chemist: Richard L. Pierce RLP

< - Not Detected at Indicated Level

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

REPORT OF ANALYSIS

RECEIVED
JUN 03 2003
BUREAU OF ENVIRONMENTAL REMEDIATION

## ORGANIC CHEMISTRY

Report To: BUREAU OF ENV. REMEDIATION  Analysis Code: WG  Lab Number: 416542
Address: CURTIS SOB, SUITE 410, ATTN: TRAVIS KOGL  Date Rec'd: 05/22/03
TOPEKA, KS 66612  Report Date: 05/30/03

Site ID No.:
Acct No: 4EM80  Sample Type: WATER  Program Code: EP
Site: HYDRO-FLEX GP-3  No. Composited:
Collected By: T KOGL KDHE/BER  Depth: 44  Date: 05/22/03  Time: 12:00

| VOLATILE ORGANIC COMPOUNDS | CONCENTRATION ( ug/L ) | Analysis Date | EPA Method |
|---|---|---|---|
| Vinyl Chloride | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| Dichloromethane | < 0.50 | 05/29/03 | 8260 |
| trans 1,2-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| cis 1,2-Dichloroethylene | < 0.50 | 05/29/03 | 8260 |
| 1,1,1-Trichloroethane | < 0.50 | 05/29/03 | 8260 |
| Tetrachloromethane | < 0.50 | 05/29/03 | 8260 |
| Benzene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichloroethane | < 0.50 | 05/29/03 | 8260 |
| Trichloroethylene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Toluene | < 0.50 | 05/29/03 | 8260 |
| 1,1,2-Trichloroethane | < 0.50 | 05/29/03 | 8260 |
| Tetrachloroethylene | < 0.50 | 05/29/03 | 8260 |
| Chlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Ethylbenzene | < 0.50 | 05/29/03 | 8260 |
| Xylene | < 0.50 | 05/29/03 | 8260 |
| Styrene | < 0.50 | 05/29/03 | 8260 |
| 1,4-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,4-Trichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Chloromethane | < 0.50 | 05/29/03 | 8260 |
| Bromomethane | < 0.50 | 05/29/03 | 8260 |
| Chloroethane | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloroethane | < 0.50 | 05/29/03 | 8260 |
| 2,2-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Trichloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1-Dichloropropene | < 0.50 | 05/29/03 | 8260 |
| Dibromomethane | < 0.50 | 05/29/03 | 8260 |
| Bromodichloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,3-Dichloropropane | < 0.50 | 05/29/03 | 8260 |
| Dibromochloromethane (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1,1,2-Tetrachloroethane | < 0.50 | 05/29/03 | 8260 |
| Bromoform (THM) | < 0.50 | 05/29/03 | 8260 |
| 1,1,2,2-Tetrachloroethane | < 0.50 | 05/29/03 | 8260 |
| Bromobenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,3-Trichloropropane | < 0.50 | 05/29/03 | 8260 |
| ortho-Chlorotoluene | < 0.50 | 05/29/03 | 8260 |
| para-Chlorotoluene | < 0.50 | 05/29/03 | 8260 |
| 1,3-Dichlorobenzene | < 0.50 | 05/29/03 | 8260 |
| Ethylene Dibromide (EDB) | < 0.010 | 05/29/03 | 8260 |
| 1,2-Dibromo-3-chloropropane | < 0.020 | 05/29/03 | 8260 |
| Fluorotrichloromethane | < 0.50 | 05/29/03 | 8260 |
| Dichlorodifluoromethane | < 0.50 | 05/29/03 | 8260 |
| Isopropylbenzene | < 0.50 | 05/29/03 | 8260 |
| n-Propylbenzene | < 0.50 | 05/29/03 | 8260 |
| 1,3,5-Trimethylbenzene | < 0.50 | 05/29/03 | 8260 |
| tert-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| 1,2,4-Trimethylbenzene | < 0.50 | 05/29/03 | 8260 |
| sec-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| para-Isopropyltoluene | < 0.50 | 05/29/03 | 8260 |
| n-Butylbenzene | < 0.50 | 05/29/03 | 8260 |
| Naphthalene | < 0.50 | 05/29/03 | 8260 |
| Methyl tert-butyl ether | < 0.50 | 05/29/03 | 8260 |

Chemist: Richard L. Pierce RLP

< - Not Detected at Indicated Level

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001



# REPORT OF ANALYSIS

## ORGANIC CHEMISTRY

Report To: BUREAU OF ENV. REMEDIATION  Analysis Code: VG  Lab Number: 416538
Address: CURTIS SOB, SUITE 410, ATTN: TRAVIS KOGL  Date Rec'd: 05/22/03
TOPEKA, KS 66612  Report Date: 05/29/03

Site ID No.:

Acct No: 4EM80  Sample Type: WATER  Program Code: EP
Site: WEINCK WELL  No. Composited:
Collected By: T KOGL  KDHE/BER  Depth: 37  Date: 05/22/03  Time: 13:25

| VOLATILE ORGANIC COMPOUNDS | CONCENTRATION ( ug/L ) | Analysis Date | EPA Method |
|---|---|---|---|
| Vinyl Chloride | < 0.50 | 05/27/03 | 8260 |
| 1,1-Dichloroethylene | < 0.50 | 05/27/03 | 8260 |
| Dichloromethane | < 0.50 | 05/27/03 | 8260 |
| trans 1,2-Dichloroethylene | < 0.50 | 05/27/03 | 8260 |
| cis 1,2-Dichloroethylene | < 0.50 | 05/27/03 | 8260 |
| 1,1,1-Trichloroethane | < 0.50 | 05/27/03 | 8260 |
| Tetrachloromethane | 0.52 | 05/27/03 | 8260 |
| Benzene | < 0.50 | 05/27/03 | 8260 |
| 1,2-Dichloroethane | < 0.50 | 05/27/03 | 8260 |
| Trichloroethylene | < 0.50 | 05/27/03 | 8260 |
| 1,2-Dichloropropane | < 0.50 | 05/27/03 | 8260 |
| Toluene | < 0.50 | 05/27/03 | 8260 |
| 1,1,2-Trichloroethane | < 0.50 | 05/27/03 | 8260 |
| Tetrachloroethylene | < 0.50 | 05/27/03 | 8260 |
| Chlorobenzene | < 0.50 | 05/27/03 | 8260 |
| Ethylbenzene | < 0.50 | 05/27/03 | 8260 |
| Xylene | < 0.50 | 05/27/03 | 8260 |
| Styrene | < 0.50 | 05/27/03 | 8260 |
| 1,4-Dichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2-Dichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2,4-Trichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| Chloromethane | < 0.50 | 05/27/03 | 8260 |
| Bromomethane | < 0.50 | 05/27/03 | 8260 |
| Chloroethane | < 0.50 | 05/27/03 | 8260 |
| 1,1-Dichloroethane | < 0.50 | 05/27/03 | 8260 |
| 2,2-Dichloropropane | < 0.50 | 05/27/03 | 8260 |
| Trichloromethane (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,1-Dichloropropene | < 0.50 | 05/27/03 | 8260 |
| Dibromomethane | < 0.50 | 05/27/03 | 8260 |
| Bromodichloromethane (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,3-Dichloropropane | < 0.50 | 05/27/03 | 8260 |
| Dibromochloromethane (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,1,1,2-Tetrachloroethane | < 0.50 | 05/27/03 | 8260 |
| Bromoform (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,1,2,2-Tetrachloroethane | < 0.50 | 05/27/03 | 8260 |
| Bromobenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2,3-Trichloropropane | < 0.50 | 05/27/03 | 8260 |
| ortho-Chlorotoluene | < 0.50 | 05/27/03 | 8260 |
| para-Chlorotoluene | < 0.50 | 05/27/03 | 8260 |
| 1,3-Dichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| Ethylene Dibromide (EDB) | < 0.010 | 05/27/03 | 8260 |
| 1,2-Dibromo-3-chloropropane | < 0.020 | 05/27/03 | 8260 |
| Fluorotrichloromethane | < 0.50 | 05/27/03 | 8260 |
| Dichlorodifluoromethane | < 0.50 | 05/27/03 | 8260 |
| Isopropylbenzene | < 0.50 | 05/27/03 | 8260 |
| n-Propylbenzene | < 0.50 | 05/27/03 | 8260 |
| 1,3,5-Trimethylbenzene | < 0.50 | 05/27/03 | 8260 |
| tert-Butylbenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2,4-Trimethylbenzene | < 0.50 | 05/27/03 | 8260 |
| sec-Butylbenzene | < 0.50 | 05/27/03 | 8260 |
| para-Isopropyltoluene | < 0.50 | 05/27/03 | 8260 |
| n-Butylbenzene | < 0.50 | 05/27/03 | 8260 |
| Naphthalene | < 0.50 | 05/27/03 | 8260 |
| Methyl tert-butyl ether | < 0.50 | 05/27/03 | 8260 |

Chemist: Richard L. Pierce

< - Not Detected at Indicated Level

DIVISION OF HEALTH & ENVIRONMENTAL LABORATORIES
Kansas Department of Health and Environment
Forbes Field, Bldg. 740, Topeka, Kansas 66620-0001

# REPORT OF ANALYSIS

## ORGANIC CHEMISTRY

Report To: BUREAU OF ENV. REMEDIATION  Analysis Code: VG  Lab Number: 416539
Address: CURTIS SOB, SUITE 410, ATTN: TRAVIS KOGL  Date Rec'd: 05/22/03
TOPEKA, KS 66612  Report Date: 05/29/03

Site ID No.:
Acct No: 4EM80  Sample Type: WATER  Program Code: EP
Site: STOVER WELL  No. Composited:
Collected By: T KOGL  KDHE/BER  Depth: 44  Date: 05/22/03  Time: 13:35

| VOLATILE ORGANIC COMPOUNDS | CONCENTRATION ( ug/L ) | Analysis Date | EPA Method |
|---|---|---|---|
| Vinyl Chloride | < 0.50 | 05/27/03 | 8260 |
| 1,1-Dichloroethylene | < 0.50 | 05/27/03 | 8260 |
| Dichloromethane | < 0.50 | 05/27/03 | 8260 |
| trans 1,2-Dichloroethylene | < 0.50 | 05/27/03 | 8260 |
| cis 1,2-Dichloroethylene | < 0.50 | 05/27/03 | 8260 |
| 1,1,1-Trichloroethane | < 0.50 | 05/27/03 | 8260 |
| Tetrachloromethane | < 0.50 | 05/27/03 | 8260 |
| Benzene | < 0.50 | 05/27/03 | 8260 |
| 1,2-Dichloroethane | < 0.50 | 05/27/03 | 8260 |
| Trichloroethylene | < 0.50 | 05/27/03 | 8260 |
| 1,2-Dichloropropane | < 0.50 | 05/27/03 | 8260 |
| Toluene | < 0.50 | 05/27/03 | 8260 |
| 1,1,2-Trichloroethane | < 0.50 | 05/27/03 | 8260 |
| Tetrachloroethylene | < 0.50 | 05/27/03 | 8260 |
| Chlorobenzene | < 0.50 | 05/27/03 | 8260 |
| Ethylbenzene | < 0.50 | 05/27/03 | 8260 |
| Xylene | < 0.50 | 05/27/03 | 8260 |
| Styrene | < 0.50 | 05/27/03 | 8260 |
| 1,4-Dichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2-Dichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2,4-Trichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| Chloromethane | < 0.50 | 05/27/03 | 8260 |
| Bromomethane | < 0.50 | 05/27/03 | 8260 |
| Chloroethane | < 0.50 | 05/27/03 | 8260 |
| 1,1-Dichloroethane | < 0.50 | 05/27/03 | 8260 |
| 2,2-Dichloropropane | < 0.50 | 05/27/03 | 8260 |
| Trichloromethane (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,1-Dichloropropene | < 0.50 | 05/27/03 | 8260 |
| Dibromomethane | < 0.50 | 05/27/03 | 8260 |
| Bromodichloromethane (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,3-Dichloropropane | < 0.50 | 05/27/03 | 8260 |
| Dibromochloromethane (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,1,1,2-Tetrachloroethane | < 0.50 | 05/27/03 | 8260 |
| Bromoform (THM) | < 0.50 | 05/27/03 | 8260 |
| 1,1,2,2-Tetrachloroethane | < 0.50 | 05/27/03 | 8260 |
| Bromobenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2,3-Trichloropropane | < 0.50 | 05/27/03 | 8260 |
| ortho-Chlorotoluene | < 0.50 | 05/27/03 | 8260 |
| para-Chlorotoluene | < 0.50 | 05/27/03 | 8260 |
| 1,3-Dichlorobenzene | < 0.50 | 05/27/03 | 8260 |
| Ethylene Dibromide (EDB) | < 0.010 | 05/27/03 | 8260 |
| 1,2-Dibromo-3-chloropropane | < 0.020 | 05/27/03 | 8260 |
| Fluorotrichloromethane | < 0.50 | 05/27/03 | 8260 |
| Dichlorodifluoromethane | < 0.50 | 05/27/03 | 8260 |
| Isopropylbenzene | < 0.50 | 05/27/03 | 8260 |
| n-Propylbenzene | < 0.50 | 05/27/03 | 8260 |
| 1,3,5-Trimethylbenzene | < 0.50 | 05/27/03 | 8260 |
| tert-Butylbenzene | < 0.50 | 05/27/03 | 8260 |
| 1,2,4-Trimethylbenzene | < 0.50 | 05/27/03 | 8260 |
| sec-Butylbenzene | < 0.50 | 05/27/03 | 8260 |
| para-Isopropyltoluene | < 0.50 | 05/27/03 | 8260 |
| n-Butylbenzene | < 0.50 | 05/27/03 | 8260 |
| Naphthalene | < 0.50 | 05/27/03 | 8260 |
| Methyl tert-butyl ether | < 0.50 | 05/27/03 | 8260 |

Chemist: Richard L. Pierce

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